



PROPOSED PLAN CLOSURE OF SIX ERP SITES CAPE ROMANZOF LRRS

COMMENT PERIOD: May 31, 2006 to June 30, 2006



611 CES/CEVR Installation Restoration Program, 10471 20th Street, Suite 302, Elmendorf Air Force Base, Alaska 99506-2200

INTRODUCTION

This *Proposed Plan*¹ describes the proposed *site closure* of six (6) *Environmental Restoration Program (ERP)*² sites located at the *Cape Romanzof Long Range Radar Site (Cape Romanzof)*. The six sites are listed below:

- Waste Accumulation Area No. 2 (SS001),
- Waste Accumulation Area No. 3 (SS008),
- Landfill No. 1 (LF002),
- Road Oiling (OT005),
- White Alice (OT006), and
- 611th Disposal Pit/Debris Landfill (LF012).

The six subject sites of this *Proposed Plan* do not pose an unacceptable risk to human health or the environment; therefore, the *United States Air Force (USAF)* is recommending *site closure* under its *CERCLA* authority.

Five of the sites (SS001, LF002, OT005, OT006, and LF012) were closed under Alaska state regulations in 1993; this Proposed Plan discusses the planned closure of these sites under *CERCLA*. For site SS008, site closure is planned under both Alaska state regulations and *CERCLA*. *ADEC* concurs with the recommendations in this *Proposed Plan*.

USAF, in coordination with the Alaska Department of Environmental Conservation (*ADEC*), has issued this *Proposed Plan* to solicit review and comments from community members on the final remedy proposed for the six *ERP* sites (*site closure*). The proposed

Regulatory Basis

This plan is issued in accordance with and satisfies the requirements of the Comprehensive Environmental Restoration, Compensation and Liability Act (*CERCLA*, at 42 USC §§ 9601 *et. seq.*), as further implemented by the National Contingency Plan (NCP, at 40 CFR Part 300). The ERP is authorized in the Defense Environmental Restoration Program (10 USC §§ 2701 *et. seq.*) as the environmental restoration program the Air Force uses to take *CERCLA* response actions and satisfy its *CERCLA* lead agency functions as delegated by Executive Order 12580. The plan also meets all requirements of Alaska State law and regulations, including but not limited to Title 46 of the Alaska Statutes and regulations promulgated thereunder.

remedy presented in this *Plan* can change in response to public comment or new information.

Following consideration of public comments received on the plan, *USAF* will prepare a *Record of Decision (ROD)* to document the final remedy selected for the subject *ERP* sites. The *ROD* will contain a summary of responses to public comments (*Responsiveness Summary*).

How You Can Participate

You are encouraged to comment on this Proposed Plan. The public comment period begins on May 31, 2006 and ends on June 30, 2006.

If there is sufficient interest for a public meeting on this Proposed Plan and requested before June 30, 2006, an acceptable meeting date will be scheduled before July 30, 2006 and the comment period extended.

A pre-addressed comment form is included at the end of the plan. You can mail, email, or fax your comments to the USAF Remedial Project Manager at the following:

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This Proposed Plan is also available on the following website:

http://www.state.ak.us/dec/spar/csp/sites/cape_romanzof.htm

¹ For convenience to the reader, the terms in *bold italic* are defined in the Glossary at the end of this publication.

² The *ERP* is the United States Air Force's (*USAF*) program modeled after the *Environmental Protection Agency's (EPA's)* Superfund environmental cleanup program.

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SUMMARY OF PROPOSED ACTIONS

There is no action needed to protect human health or the environment at the six subject *ERP* sites; they will be available for unrestricted use/unrestricted access.

ORGANIZATION OF PROPOSED PLAN

The rest of this *Proposed Plan* discusses how the *USAF* and *ADEC* determined that site *closure* was appropriate for the subject sites. General information relevant to all of the subject sites is followed by individual information summaries for each site.

CAPE ROMANZOF BACKGROUND

LOCATION

Cape Romanzof *LRRS* is located within the Yukon Delta National Wildlife Refuge in western Alaska, approximately 540 miles west of Anchorage (Figure 1). It is situated on a

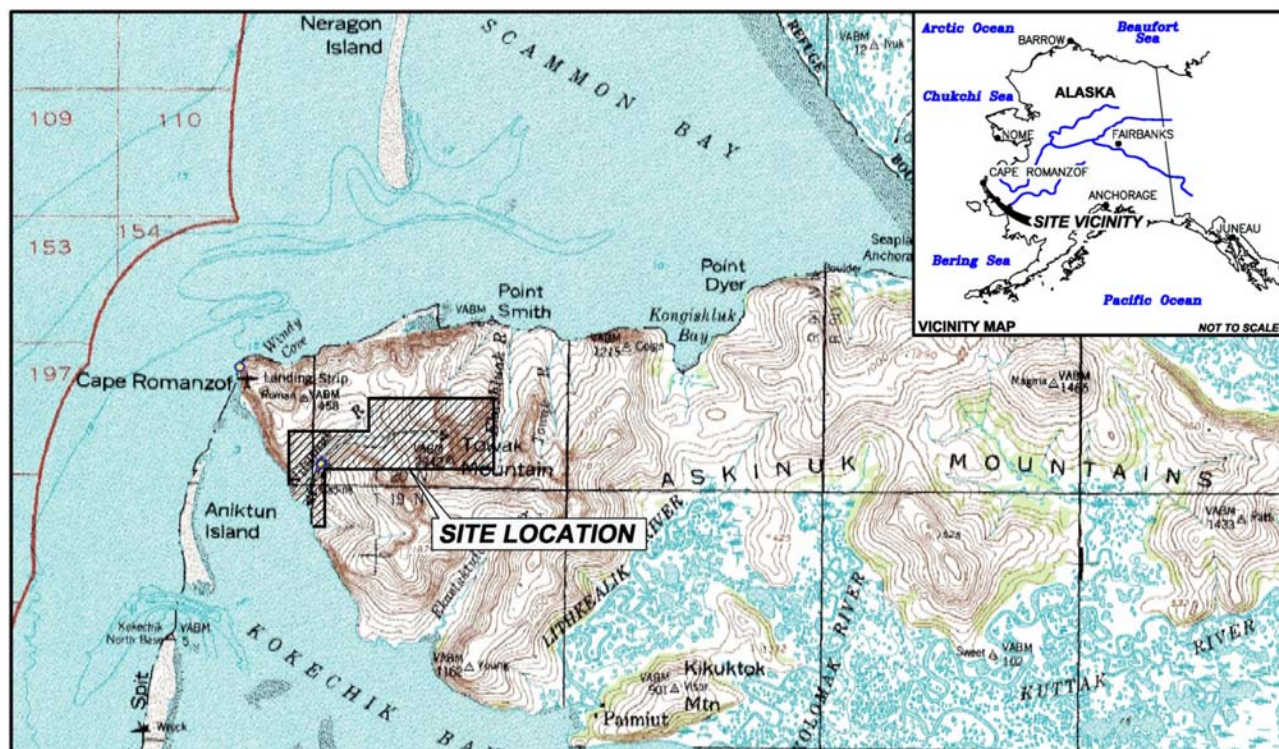
small peninsula that extends into the Bering Sea. The nearest towns to Cape Romanzof are Scammon Bay and Hooper Bay, which are about 15 miles east and south, respectively. The communities are not connected to Cape Romanzof by road.

Cape Romanzof *LRRS* includes 4,900 acres of land that has been divided into two areas, the Lower Camp and the Upper Camp. The Lower Camp lies at the head of a valley next to tundra fields and intermittent streams, which drain into a perennial stream, Fowler (Nilumat) Creek. The Upper Camp is situated on a high ridge directly above the head of the valley.

HISTORICAL USE

Cape Romanzof *LRRS* was one of ten original Aircraft Control and Warning (AC&W) sites in the Alaska air defense system. Installation construction was finished in 1952, and operations began in 1953. In 1958, Cape Romanzof was established as a *White Alice Communications System* (WACS), replacing the AC&W. In 1979, a commercially owned-and-

Figure 1: Cape Romanzof Location Map



operated communications system (Alascom) used a satellite earth terminal to replace the White Alice operations.

Cape Romanzof **LRRS** has been operated by a government contractor since 1977. Since the *minimally-attended radar system (MARS)* was completed in the mid-1980s, the staffing level dropped to approximately six people, who live at the site year-round. Additional personnel stay at Cape Romanzof **LRRS** on a seasonal basis.

Hazardous and potentially *hazardous substances* have historically been used or stored at Cape Romanzof **LRRS** to support base activities.

SITE RESTORATION HISTORY

Historical site restoration events are summarized below. Cape Romanzof **ERP** sites are shown on Figure 2.

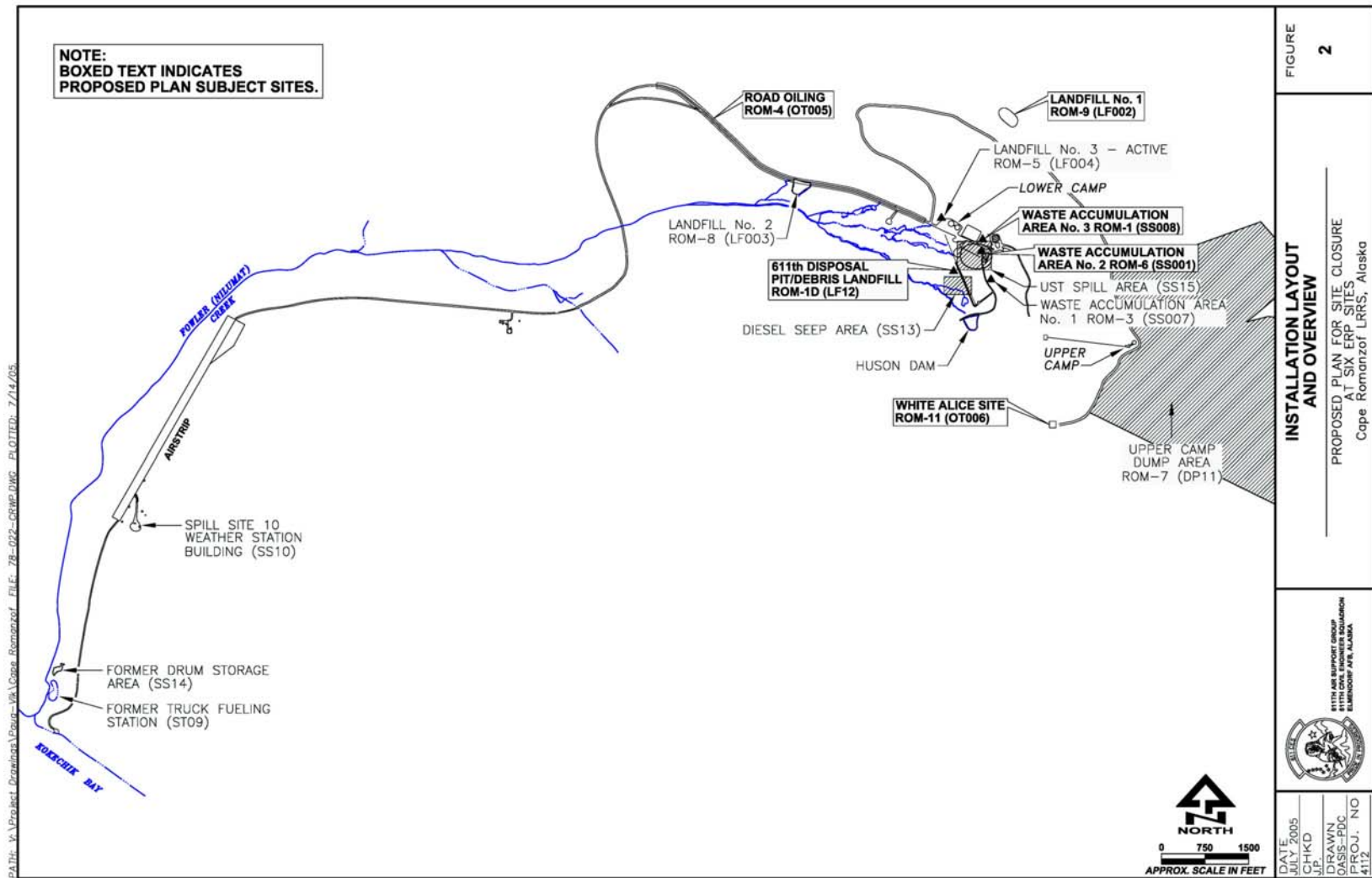
- During 1985, a Phase I records search identified 11 potentially contaminated sites at Cape Romanzof **LRRS**. Subsequently, site ROM-1 was subdivided into three sites, and several additional sites were identified; there are now a total of 15 **ERP** sites at Cape Romanzof **LRRS**. All of the Cape Romanzof **LRRS ERP** sites not addressed in this *Proposed Plan* are listed, along with their **ERP** status, in Table 1. Table 1 is included to provide the reader with an overview of all environmental restoration issues at Cape Romanzof **LRRS**; restoration of the sites listed in Table 1 does not affect the six subject sites of this *Proposed Plan*.
- During 1987, USAF crews removed all known asbestos-containing and *polychlorinated biphenyl (PCB)*-containing equipment from Cape Romanzof. Asbestos-containing material was placed in a placarded asbestos landfill southeast of Lower Camp. *PCB*-containing equipment was shipped from Cape Romanzof to the *Defense Reutilization and Marketing Office (DRMO)* at Elmendorf

Air Force Base.

- During 1988, a USAF crew demolished 24 buildings, 8 building foundations, antennas, and other structures from White Alice, Upper Camp, and Lower Camp. Debris was placed into the debris landfill (LF012). Hazardous material was shipped to the **DRMO** at Elmendorf Air Force Base. After demolition, the sites were covered with an average depth of two to three feet of crushed rock.
- During the early 1990s, various underground storage tanks (*USTs*), a 25,000-gallon aboveground storage tank (*AST*), and associated piping were excavated. Also, Water Well No. 3 was abandoned, and Landfill 2 (LF003) was covered.
- Additional site restoration events have occurred under the Clean Sweep program in the early 2000s.
 - In 2001, a Cape Romanzof drum inventory identified approximately 1,300 to 1,500 drums in the Towak Mountain East Valley (DP11) and approximately 200 drums in the Fowler Creek drainage area. Subsequently, 148 drums were removed from the Fowler Creek drainage area. Accessibility issues have constrained the removal of the drums at Towak Mountain East Valley.
 - In 2003, the old weather station (Bldg. 4100) and its associated septic system and piping were demolished.

All of the White Alice buildings at the Upper Camp have been demolished; only the **MARS** radar dome and tram station remain at Upper Camp. At the Lower Camp, almost all of the original buildings have been demolished; what now remains are two dome-style buildings (one for residential use and one small machine shop), a dry storage building, and some fuel tanks.

Proposed Plan for Site Closure at Six Sites - Cape Romanzof LRRS



**Proposed Plan for Site Closure at Six Sites -
Cape Romanzof LRRS**

**Table 1: Cape Romanzof LRRS ERP Sites
Not Addressed in this Proposed Plan**

Site	Name	Status
LF03 (ROM 8)	Landfill No. 2	2002 Interim Record of Decision (<i>ROD</i>); long-term monitoring
SS13 (ROM 1S)	Seep Area and Spill Location 5	2002 Interim <i>ROD</i> ; <i>monitored natural attenuation (MNA)</i>
SS15	Spill Site 15	2002 Interim <i>ROD</i> ; <i>MNA</i>
LF04 (ROM 5)	Landfill No. 3	Active landfill
ST09 (ROM 10)	Former Truck Fueling Station near beach	2004 Remedial Investigation/Feasibility Study (<i>RI/FS</i>) Ongoing
SS10 (ROM 2)	Spill Site 10 (Weather Station Building)	Further <i>RI/FS</i> activities required
DP11 (ROM 7)	Upper Camp Dump Area	2004 <i>RI/FS</i> Ongoing
SS14 (ROM 1S)	Drum Storage Area	2004 <i>RI/FS</i> Ongoing

There is also a small building at the end of the airstrip that is used as a weather station.

CURRENT AND FUTURE LAND USE

Cape Romanzof *LRRS* is located within the limits of the Yukon Delta National Wildlife Refuge, a federally protected environment.

Cape Romanzof *LRRS* is currently used as an active *MARS* facility. The subject area contains residential structures for six year-round workers and additional seasonal workers. There is no road access from nearby villages to Cape Romanzof *LRRS*; therefore, frequent use by community members is not anticipated. However, members of nearby villages use the surrounding lands and oceans for subsistence purposes.

The reasonably-anticipated future land use is the same as the current land use.

GROUNDWATER USE

Groundwater is used as the drinking water source for Cape Romanzof *LRRS*. The water

supply well, Well No. 1 at Lower Camp, produces groundwater from confined water-bearing zones at 82 to 102 feet deep and 146 to 148 feet deep.

There are no other known surface water or groundwater intakes in use within the Cape Romanzof watershed.

SURFACE WATER USE

Surface water drainage at Cape Romanzof *LRRS* is generally by overland flow to ephemeral streams feeding into Fowler (Nilumat) Creek, which then flows westward into Kokechik Bay. Fowler (Nilumat) Creek supports several species of fish, including Dolly Varden and pink salmon.

Surface water drainage at the Upper Camp area (by DP11 and OT006) is generally by overland flow to intermittent streams feeding into Ekashluak Creek, which then flows northward into Scammon Bay.

Fowler (Nilumat) Creek is used by Cape Romanzof workers for recreational fishing. Kokechik Bay and Scammon Bay are used by nearby communities for subsistence purposes.

OVERALL SITE RESTORATION OBJECTIVES

The overall objectives of Cape Romanzof environmental site restoration are to ensure that conditions at each site are protective of human health and the environment and comply with *Applicable or Relevant and Appropriate Requirements (ARARs)*. *ARARs* are state and federal regulations that are legally applicable or relevant and appropriate to site concerns.

To determine whether site conditions are protective of human health and the environment, *USAF* compared site sample results with levels established in state regulations. For the six sites discussed in this Plan, *USAF* found that site sample results did not exceed levels allowed by state regulations. The applicable state regulations for soil, groundwater, surface water, and sediment

samples are discussed below.

SOIL AND GROUNDWATER

The ADEC 18 AAC 75 (Oil and Hazardous Substances Pollution Control Regulations) *Method 2 cleanup levels* are considered protective of human health and the environment at the subject sites³. *Method 2 soil cleanup levels* (as tabulated in 18 AAC 75.341 Tables B1 and B2) and *Method 2 groundwater cleanup levels* (as tabulated in 18 AAC 75.345 Table C) are considered protective for unrestricted land use and unrestricted access.

For the six sites addressed in this Plan, contaminant levels in soil and groundwater samples did not exceed *Method 2 cleanup levels*.

SURFACE WATER

Surface water criteria provided in ADEC 18 AAC 70 (Alaska Water Quality Standards) are appropriate for surface water at the subject sites. These levels are protective of human health and the environment.

For the six sites addressed in this Plan, contaminant levels in surface water samples did not exceed surface water criteria.

SEDIMENTS⁴

Although there are no sediment *cleanup levels* established in regulation, Alaska water quality regulations (18 AAC 70) state that sediment contamination may not cause adverse effects on aquatic life.

³ Tabulated *cleanup levels* provided in 18 AAC 75 are considered protective of human health; ecological protectiveness is evaluated on a site-by-site basis. The ecological risk evaluation (discussed on page 10 of this Plan) indicated that contamination from the subject sites has not adversely affected the environment, nor would it be expected to do so in the future.

⁴ With respect to cleanup levels, sediments are distinguished from soil by the degree to which they are submerged in water. The substrate in wetlands or streambeds that is submerged more than half of the year is considered sediment; the substrate in areas that are never or only occasionally submerged is considered soil.

Although the state of Alaska and the EPA have not published sediment cleanup levels, *sediment benchmark screening levels (SSLs)* published by several research organizations (e.g., Oak Ridge National Laboratories [ORNL] and the National Oceanic and Atmospheric Administration [NOAA]) are appropriate for use in evaluating contaminants detected in river or creek sediments.

For the six sites addressed in this Plan, contaminant levels in sediment samples did not exceed SSLs.

SUMMARY OF SITE CONDITIONS

USAF has conducted investigations of the Cape Romanzof LRRS sites to determine if past activities have caused contamination, and how widespread any contamination might be. All of the reports are available in the Administrative Record (access information is provided on page 17 of this Plan). Key reports documenting conditions at the subject sites are listed below:

- *Phase I Records Search, AAC-Southern Region* (USAF [Engineering Science], 1985)
- *Final RI/FS Technical Report Cape Romanzof LRRS, Alaska* (USAF [Woodward-Clyde], 1992a). The field work reported in the 1992 RI/FS was performed during 1989 and 1990.
- *Final Technical Document to Support No Further Action for Certain Sites at Cape Romanzof LRRS, Alaska* (USAF [Woodward Clyde], 1992b)
- *Final Report Investigation, Delineation, and Excavation of Contaminated Soil from Stockpile Near SS15 Site, Waste Accumulation Area 3 (SS08), Drum Storage Area (SS14), Petroleum, Oil, and Lubricants Fill Stand (ST09), Construction of Cells for Contaminated Soil, Capping of Landfill-2 (LF03), and Geology/Water Resources of Nilumat Valley* (USAF, 1995)

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- *Site Investigation Cape Romanzof LRRS, Alaska* (USAF, 2000)
- *Draft Remedial Investigation and Feasibility Study Report for Sites DP11, SS14, and ST09, Cape Romanzof LRRS, Alaska* (USAF, 2005)

Figure 3 shows the layout of the subject sites at Cape Romanzof **LRRS**. The investigations listed above concluded that none of the subject sites are impacted by contamination above cleanup levels. Investigation results for each subject site are summarized on pages 11 to 16 of this Plan.

SUMMARY OF SITE RISKS

In accordance with the *NCP*'s requirement for baseline risk assessment (40 CFR § 300.400 (d)) to characterize current and potential threats to human health and the environment, risk due to contamination at the subject Cape Romanzof **ERP** sites was evaluated in the *RI/FS* reports (USAF [Woodward-Clyde], 1992a and USAF, 2005). In addition, during preparation of this Proposed Plan, the potential effects on people from exposure to multiple chemical compounds were evaluated for each site by comparing detected concentrations with risk-based concentrations.

HUMAN HEALTH RISK EVALUATION

In the 1992 *RI/FS* (USAF [Woodward-Clyde], 1992a), risk was evaluated using a two-tiered qualitative risk evaluation process. Tier I contained two criteria: proximity to sensitive biological receptors and evidence of contamination. If either criterion were met, then the site progressed to Tier II. Tier II considered exposure potential and toxicity threshold.

No evidence of contamination was found at three of the subject sites, Waste Accumulation Area No. 2. (SS001), Landfill No. 1 (LF002), and White Alice (OT006). Therefore, these three sites were not included in the *RI/FS* risk evaluation.

Tier I Results

The other three subject sites (Waste Accumulation Area No. 3 [SS008], Road Oiling

[OT005], and the 611th Disposal Pit/Debris Landfill [LF012]) are all within one mile of both the Cape Romanzof living quarters and Fowler (Nilumat) Creek. Fowler (Nilumat) Creek is visited by salmonids seasonally and is assumed to be inhabited by ecologically-important species. Furthermore, evidence of contamination was found at each of these three subject sites; therefore, all three of these sites proceeded to Tier II screening.

Tier II Results

The Tier II risk evaluation concluded that none of the three subject sites exhibited both significant exposure potential and toxicity threshold. Therefore, the three sites (Waste Accumulation Area No. 3 (SS008), Road Oiling (OT005), and 611th Debris Pile/Landfill (LF012)) were determined to pose insignificant potential risk.

However, remedial action was recommended for Waste Accumulation Area No. 3 (SS008), due to exceedences of *cleanup levels*. As described on page 11 of this Proposed Plan, the recommended remedial action was performed in 1994.

Comparison of Detected Chemical Concentrations with Risk-Based Concentrations

Individual detected chemical concentrations and total (cumulative) risk posed by all chemicals at each site that has been sampled (i.e., SS008 [post-excavation samples], LF012, OT005, and OT006 [relevant 1994 DP11 *RI/FS* samples]) were compared to published risk levels considered acceptable to *ADEC*. The published risk levels used for comparison with existing contamination levels are human health risk-based levels promulgated by the State of Alaska for soil based upon residential uses. The use of such promulgated standards for risk assessment is specifically allowed by *NCP* and *EPA* guidance (OSWER # 9355.0, Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, April 1991).

Table 2 provides a risk summary for SS008, LF012, OT005, and OT006. In accordance with

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ADEC guidance, all analytes detected at concentrations greater than 1/10 of the *cleanup level* (except metals at DP11, which are considered to represent natural conditions) were included in risk calculations. The individual

risk posed by each chemical and cumulative risk posed by all chemicals detected at each site are below published risk levels. No cleanup is required to protect human health at the subject sites.

Table 2: Cumulative Risk Summary

Waste Accumulation Area No. 3 (SS008)								
	Max. Detected ¹ (mg/kg)	RBC ² (noncarcinogenic) mg/kg	RBC ² (carcinogenic) mg/kg	Exposure Pathway	HQ ³	Risk ³	Cumulative HQ ⁴	Cumulative Risk
DRO ⁵	150	10,139		Ingestion-NC	0.015			
Benzene	0.035		8.8	Inhalation-C		4E-08		4E-08
Benzene	0.035		150	Ingestion-C		2E-09		
611th Disposal Pit/Debris Landfill (LF012)								
TPH ^{5,6}	30	10,139		Ingestion-NC	0.003			
Road Oiling (OT005)								
TPH ^{5,6}	380	10,139		Ingestion-NC	0.037			
2004 DP11 RI/FS Samples (Relevant to OT006)								
DRO ⁵	108	10,139		Ingestion-NC	0.011			
PCBs ⁷	0.156	2		Ingestion-NC	0.08		0.1	
PCBs ⁷	0.156		4	Ingestion-C		4E-07		5E-07
PCBs ⁷	0.156		15.3	Inhalation-C		1E-07		

Notes:

In accordance with ADEC guidance, all analytes detected at least once at a concentration greater than 1/10 of the cleanup level are included in risk calculations, except metals at DP11, which were consistently detected at concentrations above 1/10 of the cleanup level but are interpreted to represent background conditions.

¹ At Waste Accumulation Area No. 3 (SS008), the maximum detected concentration represents the maximum concentration remaining in subsurface soil AFTER the 1994 excavation.

² RBCs for bulk hydrocarbons (DRO) were calculated using default exposure assumptions provided in Appendix C of the Cleanup Levels Guidance (ADEC, 2004). RBCs for individual chemicals (except PCBs-see note 7) were taken from Appendix B of the Cumulative Risk Guidance (ADEC, 2002). RBCs are based on residential land use.

³ HQ and Cancer Risk estimates were calculated by dividing the RBC by the maximum detected concentration and multiplying the result by the target risk or HQ (1E-5 and 1 respectively).

⁴ In accordance with the Cumulative Risk Guidance (ADEC, 2002), bulk hydrocarbons are not included in cumulative HI.

⁵ For bulk hydrocarbons (e.g., DRO), the exposure pathway with the lowest RBC (ingestion-NC) was used to calculate the HQ. The calculated HQ is protective of both the ingestion and inhalation pathways.

⁶ The DRO RBCs were used as an estimate for TPH.

⁷ RBCs for PCBs were calculated using toxicity and chemical-specific factors for the highest-risk PCBs from the Risk Assessment Information System (RAIS) (<http://risk.lsd.ornl.gov>). RAIS provides reference doses for noncarcinogenic effects and slope factors for carcinogenic risk. The lowest RBC was due to noncarcinogenic effects from the ingestion pathway, but all complete pathways (ingestion for noncarcinogenic effects; inhalation and ingestion for carcinogenic risk) were included in the cumulative risk calculations.

Definitions:

TPH = Total Petroleum Hydrocarbons

RBC = Risk-Based Concentration

C = Carcinogenic Effects

DRO = Diesel-Range Organics

HQ = Hazard Quotient

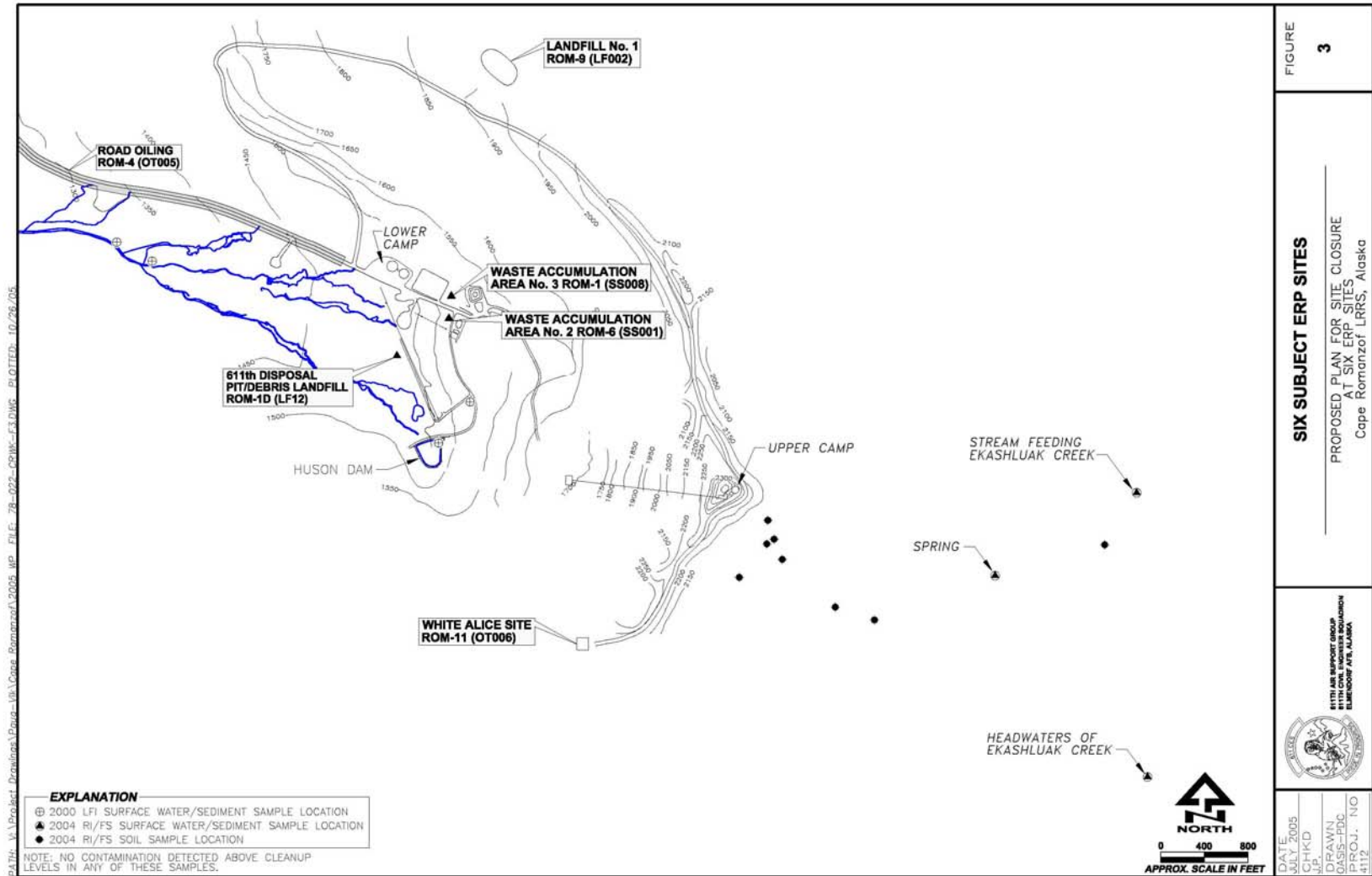
NC = Non-carcinogenic Effects

PCBs = Polychlorinated Biphenyls

HI = Hazard Index

Pink highlighting marks exceedences of target risk (1E-05) and target HI (1.0) (but there are no exceedences).

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ECOLOGICAL RISK EVALUATION

Ecological risk has been evaluated as part of several investigations at Cape Romanzof.

- In the 1992 *RI/FS* (USAF [Woodward-Clyde], 1992a), ecological risk was considered in the two-tiered qualitative risk evaluation process described on page 7 of this Proposed Plan. None of the subject sites of this Proposed Plan were determined to pose unacceptable ecological risk
- In the 2000 Site Investigation (USAF, 2000), soil, sediment, and surface water sample results (Figure 3) indicated that no contamination had impacted Fowler (Nilumat) Creek and other areas downgradient of the Cape Romanzof LRRS Lower Camp *ERP* sites.
- Sediment, plant tissue, and animal tissue samples collected from on-site sample locations were compared to background samples in a human subsistence food evaluation for the Yukon Kuskokwim Health Corporation. Study results are presented in a draft report, titled *Cape Romanzof Contaminant Migration and Subsistence Receptor Study* (June 2005). Preliminary conclusions show that chemical levels in the on-site sediment and plant tissue samples were not above background levels. Although some analytes (*PCBs*, *polyaromatic hydrocarbons* [*PAHs*], and metals) in certain animal tissue samples were elevated above background levels, these analytes would be unrelated to the subject sites of this Proposed Plan (impact may be related to other Cape Romanzof *ERP* sites known to be impacted by these chemicals).

Overall, the ecological risk evaluations concluded that no contamination from the subject sites of this *Proposed Plan* poses risk to the surrounding ecosystems.

RISK EVALUATION CONCLUSIONS

The risk evaluations concluded that no remedial

action is necessary to protect human health or the environment at the six subject *ERP* sites.

WASTE ACCUMULATION AREA NO. 2 (SS001)

Site Description

In the Phase I records search, Waste Accumulation Area No. 2 (SS001), formerly known as ROM-6, was reportedly used to store drummed new product and liquid waste from 1982 to at least 1985. The liquid waste probably consisted mostly of waste oil and small quantities of solvents, hydraulic fluid, and ethylene glycol. The reported site location is shown in Figures 2 and 3. As shown on Figure 2, SS001 is located within the boundaries of spill site SS15⁵ (site of several historic diesel and gasoline spills).

Cleanup Actions To-Date

All surface features in the area of Waste Accumulation Area No. 2 (SS001) were removed prior to a 1987 site reconnaissance (USAF [Woodward-Clyde], 1992a). The land was graded, and clean fill was placed over the demolition area.

Summary of Site Conditions

During the 1987 site reconnaissance and 1989 *Remedial Investigation/Feasibility Study (RI/FS)* activities (*RI/FS* report date is 1992), no evidence of contamination was found at Waste Accumulation Area No. 2 (SS001). The contractor reviewed aerial photographs, interviewed current station personnel, and looked for any indications of staining. There were no drums stored in the area previously identified in the Phase I report. Furthermore, the *RI/FS* found no evidence of surface staining at this location.

In the 2000 Site Investigation (USAF, 2000), soil, sediment, and surface water sample (Figure 3) results indicated that no contamination had

impacted Fowler (Nilumat) Creek and other areas downgradient of the Cape Romanzof LRRS Lower Camp *ERP* sites.

RI/FS and *monitored natural attenuation MNA* sampling performed at spill site SS015 provides information about Waste Accumulation Area No. 2 (SS001) groundwater conditions. SS001 is located within the boundaries of SS015, and two of the SS015 monitoring wells are downgradient of SS001. 1993 *RI/FS* sampling indicated the presence of petroleum hydrocarbon (*diesel-range organics [DRO]*, gasoline-range organics [*GRO*], and benzene, toluene, ethylbenzene, and xylene [*BTEX*]) contamination above current **18 AAC 75 Method 2 cleanup levels** at SS015, but no solvents or other *volatile organic compounds (VOCs)* were detected above cleanup levels (*trichloroethene [TCE]* was detected at 0.001 milligrams per liter [*mg/L*] [versus its 0.005 *mg/L cleanup level*] in a sample from one of the six groundwater monitoring wells). SS015 groundwater sampling performed in 1997, 1999, 2000, 2003, and 2004 suggests the presence of a stable *DRO* and *GRO* plume with decreasing benzene concentrations (toluene, ethylbenzene, and xylene concentrations are below *cleanup levels*). In summary, SS015 sampling suggests that there is no solvent plume associated with SS001, and if there is a petroleum hydrocarbon plume, it is commingled with petroleum hydrocarbons from SS015 and is being addressed as part of the *MNA* interim remedy for SS015.

Proposed Remedy

There is no further action required to protect human health or the environment at Waste Accumulation Area No. 2. *Site closure* is recommended. If there is any groundwater impact associated with Waste Accumulation Area No. 2, it is commingled with the SS015 petroleum hydrocarbon plume, which is being remediated by *MNA* under an Interim *ROD*.

⁵ As shown in Table 1, an interim *ROD* was signed for SS15 in 2002 designating *MNA* as an interim remedy for petroleum hydrocarbon-contaminated groundwater.

WASTE ACCUMULATION AREA NO. 3 (SS008)

Site Description

From the 1950s until 1982, drummed new products and liquid wastes were stored at Waste Accumulation Area No. 3 (SS008), formerly known as ROM-1 (Figure 3). The area reportedly received leaking drums, which caused spills within the area. Several major spills and leaks of diesel fuel and motor gasoline from storage tanks and pump fill nozzles occurred nearby.

Cleanup Actions To-Date

The 1988 Lower Camp demolition activities removed most of the visual evidence of the former waste accumulation area.

In 1994, approximately 772 cubic yards of petroleum-impacted soils were removed from SS008 and placed into *biocells* constructed at Cape Romanzof LRRS (USAF, 1995). In 2000, ADEC approved use of the remediated soil as cover material for the active landfill (Landfill #2 [LF003]). In 2004, the remediated soil was spread at LF003.

Summary of Site Conditions

1994 Pre-Excavation Sampling: A triangular sampling grid was established over the site to establish the contamination perimeter for the 1994 excavation. Pre-excavation samples were collected from depths of 18, 30, and 36 inches at several randomly-selected locations within the grid. The samples were field-screened for volatile organics and *PCBs*. *PCB* screening results were all below 10 milligrams per kilogram (*mg/kg*). Horizontal and vertical excavation guidelines were established from the *PID* results.

In addition, nine pre-excavation surface soil samples were collected for laboratory analysis for *BTEX*, toxicity characteristic leaching potential (*TCLP*) metals, halogenated *VOCs* (*HVOCs*) including *TCE*), and pesticides/*PCBs*. No *HVOCs*, pesticides, *PCBs*, or metals (except barium) were detected in any of the samples.

BTEX components were detected in two of the nine samples.

1994 Confirmation Sampling: Excavation confirmation samples were analyzed for *DRO*, *GRO*, and *BTEX*. Five of the 21 confirmation samples showed *DRO* levels above the current 250 *mg/kg* 18 AAC 75.341 Table B2 cleanup level (maximum of 911 *mg/kg*). The areas were re-sampled, and in one area the excavation was extended. Ultimately, all confirmation sample results were below cleanup levels.

Table 3 presents a summary of pre-excavation and confirmation sample results.

Previous (1989 RI/FS) Sampling (for metals, total petroleum hydrocarbons [*TPH*], *VOCs*, semi-volatile organic compounds (*SVOCs*), pesticides, and *PCBs*) indicated the presence of petroleum hydrocarbons (*TPH* and xylenes) in soil at Waste Accumulation Area No. 3. Metals and one fuel-related *SVOC* (methylnaphthalene) were detected at concentrations below 18 AAC 75.341 Table B1 cleanup levels. The 1994 excavation activities cleaned up the contamination, and there are no known areas of soil contamination above cleanup levels remaining at this site.

Proposed Remedy

There is no further action required to protect human health or the environment at Waste Accumulation Area No. 3. Site closure is recommended.

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Table 3: Waste Accumulation Area No. 3 (SS008) Excavation Confirmation Sample Summary

Media	Analysis Summary*					
	# detected over cleanup level/# detected/total # samples (max. detection)					
	Pesticides/ PCBs (8080)	HVOCs (8021)	Metals (TCLP)	BTEX (8020)	DRO (8100M)	GRO (8015M)
Pre- Excavation Soil (mg/kg)	0/0/9	0/0/9	0/0/9	NR	NR	NR
Confirmation Soil* (mg/kg)	NA	NA	NA	B: 1/1/20 (0.035) E: 0/2/20 (0.044) T: 0/5/20 (0.073) X: 0/8/20 (0.171)	0/18/22 (150)	0/9/22 (12)

Notes:

*Analytes detected at least once at a concentration greater than 1/10 of the cleanup level are shown in the table. Analytes detected at concentrations less than 1/10 of the cleanup level are listed below in the notes to the table.

**Originally, 21 confirmation soil samples were collected. Due to several sample results showing elevated DRO levels, eight additional soil samples were collected. Out of the eight additional soil samples, one had a DRO concentration of 1,600 mg/kg. Further excavation was conducted, and two final confirmation samples were collected. The tabulated results reflect only the final confirmation sample results for each location.

NA Not analyzed

NR Analyzed, but results are not important since the area was subsequently excavated. Excavation confirmation sample results are shown on the following line in the table.

PCB = Polychlorinated Biphenyls

TCLP = Toxicity Characteristic Leaching Potential

B = Benzene E = Ethylbenzene

DRO = Diesel-Range Organics

mg/kg = milligrams per kilogram

HVOC = Halogenated Volatile Organic Compound

T = Toluene X = Xylenes

GRO = Gasoline-Range Organics

LANDFILL NO. 1 (LF002)

Site Description

Landfill No. 1 (LF002), formerly known as ROM-9, was identified during the Phase I site investigation by an interviewee who noted that dumping of garbage and refuse had allegedly occurred in an area on the north slope of the ridge, north of Lower Camp, at some time in the past prior to the interviewee's time at the facility (ES, 1985). However, the existence of this landfill has never been visually confirmed during any remedial investigation or environmental restoration site visit. Furthermore, the reported location on the north slope of the ridge would be an illogical and dangerous choice for a landfill location. This location is very steep and requires significant effort to dispose of garbage and refuse. During wintertime, it is virtually inaccessible. Cover material does not appear to be available.

Given the lack of evidence that this site ever existed, samples were never taken. Based upon the results of the remedial investigations, USAF believes the interviewee who located LF002 was actually referring to the location of DP11 (see Table 1).

Proposed Remedy

There is no action required to protect human health or the environment at Landfill No. 1 (LF002). *Site closure* is recommended.

611TH DISPOSAL PIT/DEBRIS LANDFILL (LF012)

Site Description

Debris and other wastes from the 1988 demolition of the Lower Camp facilities were deposited into the debris landfill (LF012). LF012 was formerly known as ROM-1D. The site is a backfilled pit immediately south of the present fueling station (Figure 3). Landfill dimensions were reportedly 200 feet by 150 feet by 13.3 feet deep. Surface soils are well-compacted fill material composed of sandy silt with boulders

and a trace of clay.

Cleanup Actions To-Date

None.

Summary of Site Conditions

In 1989, a soil gas survey was performed over LF012, and two soil samples were collected at the areas of highest soil gas readings. The samples were analyzed for metals, *TPH*, *VOCs*, *SVOCs*, and *PCBs*. *TPH* was detected at a low concentration (30 *mg/kg*); no other contaminants were detected.

Proposed Remedy

There is no further action required to protect human health or the environment at the 611th Disposal Pit/Debris Landfill (LF012). Site closure is recommended.

ROAD OILING (OT005)

Site Description

Upper and Lower Camp roads comprise the Road Oiling (OT005) site, which was formerly called ROM-4 (Figure 3). The application of liquid industrial wastes to road surfaces and adjacent drainage ditches for dust control, known as "road oiling," was common practice at Cape Romanzof *LRRS* prior to 1978.

The road surface soil at Cape Romanzof *LRRS* is mostly sandy silt. Reportedly, the road surface has been sprayed with waste oil, and some of the soil has washed down to the sediments in the ditch. Runoff captured in ditches paralleling the road eventually reaches Nilumat (Fowler) Creek.

Cleanup Actions To-Date

None.

Summary of Site Conditions

In 1989, two soil samples were collected in ditches along the main access road between the Composite Facility and the Alascom Station. The upper sample was analyzed for metals, *TPH*, *VOCs*, *SVOCs*, and *PCBs*; the lower

sample was analyzed for *TPH* and *PCBs* only. All metals detected were within typical background ranges. *TPH* was detected at concentrations of 100 *mg/kg* and 380 *mg/kg*. *VOCs*, *SVOCs*, and *PCBs* were not detected above reporting limits.

Proposed Remedy

There is no further action required to protect human health or the environment at the Road Oiling Site (OT005). *Site closure* is recommended.

WHITE ALICE (OT006)

Site Description

The White Alice (OT006) facility (formerly known as ROM-11) was in operation from 1958 to 1979. It was located on the high ridge southwest of Upper Camp (Figure 3).

Cleanup Actions To-Date

Debris cleanup was performed in the vicinity of the White Alice (OT006) site in 1984. Drums and debris were removed from the hillside northeast of the White Alice facilities, and floor tile from the electronics room of the White Alice building was removed. All transformers from the power plant were removed prior to 1984. A USAF field log from the 1984 activities states that *PCB* sampling was performed, and sample results were all negative, although no analytical results or other reports could be found to verify the information in the log book.

The White Alice (OT06) facility structures were demolished as part of a cleanup of the site in 1988. Scrap metal and wood debris were reportedly buried in pits onsite. Asbestos-containing material was placed into a staked and placarded landfill southeast of Lower Camp⁶. Following burial, the entire site was graded to blend into surrounding contours. Approximately two to three feet of clean fill was placed over the entire area.

⁶ The landfill is being managed by the USAF 611 CEV Environmental Compliance Section.

Summary of Site Conditions

The 1989 field team was unable to find the location of any former buildings or other structures, or discern the location of the disposal pits. The asbestos landfill southeast of Lower Camp was observed to be staked and placarded. The areas had the appearance of a cobble-covered flat area on top of the mountain. There were no visible stains or other indications of contamination. No laboratory samples were collected.

In 2004, soil, sediment, and surface water samples were collected from the hillside downgradient of OT006 as part of the 2004 *RI/FS* (USAF, 2005) for DP11 (as shown on Figure 2, DP11 is located adjacent to OT006). Figure 3 shows the 2004 *RI/FS* sample locations that are downgradient from OT006. The 2004 *RI/FS* samples were analyzed for *DRO*, *GRO*, *RRO*, *PAHs*, metals, *PCBs*, and *VOCs*; Table 4 summarizes the analytical results downgradient from OT006. No contamination was detected above *cleanup levels*⁷ in any of the samples located downgradient of OT006 (Figure 3); there is no evidence of downgradient migration of any historical contamination at OT006.

Proposed Remedy

There is no further action required to protect human health or the environment at White Alice (OT006). *Site closure* is recommended.

⁷ Although arsenic and chromium were consistently detected above the soil *cleanup levels*, the detections are interpreted to reflect naturally-occurring conditions, not contamination from USAF activities.

**Proposed Plan for Site Closure at Six Sites -
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Table 4: 2004 DP11 RI/FS Sample Summary*

Media	Analysis Summary**						
	# detected over cleanup level/# detected/total # samples (max. detection)						
	PCBs	PAH	Metals	VOCs	DRO	GRO	RRO
Surface Water (mg/L)	0/0/3	0/0/3 <i>See Note 1</i>	<i>See Note 2</i>	0/0/3	NA	NA	NA
Sediment (mg/kg)	0/0/3	0/0/3	As: 3/3/3 (14.8) Ba: 3/3/3 (105) Ni: 1/3/3 (20.6) Se: 1/3/3 (2.19) V: 1/3/3 (74.3) <i>See Note 3</i>	0/0/3 <i>See Note 4</i>	NA	NA	NA
Soil (mg/kg)	0/2/8 (0.156) <i>See Note 5</i>	0/0/8 <i>See Note 6</i>	As: 8/8/8 (14.1) Cr: 5/8/8 (30.2) Ni: 0/8/8 (21.7) Se: 0/6/8 (2.17) <i>See Note 7</i>	0/0/8	0/8/8 (108) <i>See Note 5</i>	0/3/3 (10.8) <i>See Note 5</i>	0/8/8 (716)

*All samples downgradient of OT006 are shown on this summary table.

**Analytes detected at least once at a concentration greater than 1/10 of the cleanup level are shown in the table. Analytes detected at concentrations less than 1/10 of the cleanup level are listed below in the notes to the table. For sediments, only the metals detected at concentrations greater than the sediment screening level are shown on the table.

Notes:

- 1 PAH detected below 1/10 of the surface water standard: naphthalene
- 2 Metals detected below 1/10 of the surface water standard: Ba and Vd.
- 3 Metals detected below the sediment screening level: Be, Cd, Cr, Co, Cu, Fe, Pb, Zn, Hg
- 4 Methylene chloride, a common laboratory contaminant, was detected in all 3 sediment samples.
- 5 One of the PCB detections, five DRO detections, and two GRO detections were flagged "F," indicating that the detected concentration was below the method reporting limit (but above the method detection limit).
- 6 PAHs detected below 1/10 of the cleanup level: Acenaphthylene, dibenz(a,h)anthracene, phenanthrene, benzo(a)pyrene, fluoranthene, and pyrene.
- 7 Metals detected below 1/10 of the cleanup level: Ba, Be, Cu, Cd, Pb, Ni, Si, Vd, Zn, Hg.

NA Not analyzed mg/L = Milligrams per liter mg/kg=Milligrams per kilogram
Metal abbreviations: As=Arsenic, Ba=Barium, Be=Beryllium, Cd=Cadmium, Cr=Chromium, Co=Cobalt, Cu=Copper, Pb=Lead, Ni=Nickel, Se=Selenium, Si=Silver, V=Vanadium, Zn=Zinc, Hg=Mercury.

PCB = Polychlorinated Biphenyls
VOC = Volatile Organic Compound
DRO = Diesel-Range Organics

PAH = Polyaromatic Hydrocarbons
GRO = Gasoline-Range Organics
RRO = Residual-Range Organics

PUBLIC PARTICIPATION REQUEST

USAF and ADEC would like community members to review and comment on the recommendations in this *Proposed Plan*. The final decision for the sites will be made after the end of the 30-day comment period (May 31, 2006 to June 30, 2006).

After consideration of comments, USAF will publish the decision for each site in a *ROD*. All comments received by the USAF will be summarized in the *Responsiveness Summary* section of the *ROD*.

You can send comments in writing or by email. If a public meeting is requested, comments may also be presented at the public meeting.

For your convenience, a pre-addressed comment form has been included at the end of this publication.

If you have questions or wish to provide comments on this project, please contact the USAF Remedial Project Manager:

Mr. Keith Barnack
611 CES/CEVR
10471 20th Street, Suite 302
Elmendorf AFB, Alaska 99506-2200
Voice: 907-552-5160
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If you would like more information about this project:

A complete record of all information related to the Cape Romanzof LRRS sites is stored in the **Administrative Record** located at Elmendorf Air Force Base. The **Administrative Record** is available on the internet at www.adminrec.com/PACAF.asp?Location=Alaska. Alternatively, access to the **Administrative Record** is available by appointment (contact Keith Barnack, USAF Remedial Project Manager, at 907-552-5160 to make an appointment).

A detailed description of site conditions can be found in the RI/FS report, entitled *Remedial Investigation/ Feasibility Study Technical Report Cape Romanzof LRRS, Alaska*. The RI/FS report is contained in the **Administrative Record**.

The Cape Romanzof LRRS *Restoration Advisory Board (RAB)* provides a forum for communication among community members, the Air Force, and regulatory agencies.

GLOSSARY OF TERMS

Administrative Record - A file that contains information used by the USAF to decide on the cleanup for an ERP site. This file is available for public review.

Alaska Department of Environmental Conservation (ADEC) - the lead regulatory agency for Cape Romanzof.

Applicable or Relevant and Appropriate Requirements (ARARs) - Laws and regulations that establish cleanup levels for sites with contamination. ARARs include cleanup standards, standards of control, and other environmental protection criteria as specified under federal and state statutes and regulations. ARARs must be met (or a waiver approved) at a site to comply with CERCLA.

AST - Above ground storage tank.

bgs - Below ground surface.

Benzene - A colorless, volatile, inflammable, carcinogenic liquid (C_6H_6) used in a variety of chemical products, including motor fuel. Compounds containing benzene are called aromatic compounds.

Benzene, toluene, ethylbenzene, and xylene (BTEX) - Volatile organic chemicals (aromatic compounds) that are constituents of petroleum products.

Biocell -- A biocell is a soil treatment cell that is engineered to enhance the biological degradation processes that would occur naturally over a longer time period. In a biocell, the availability of oxygen and nutrients is enhanced and soil moisture levels are maintained to enhance biological degradation processes. Biocell treatment has proven to be an effective treatment method for contaminated soil at Cape Romanzof and other USAF ERP sites in Alaska.

Cleanup level - The concentration of a hazardous substance that may be present within a specified medium (i.e., soil, groundwater, or surface water) without posing an unacceptable risk to human health, safety, welfare, or the environment. ADEC provides tabulated cleanup levels in 18 AAC 75 that are applicable to contaminated soil and groundwater sites in Alaska.

DRMO - Defense Reutilization and Marketing Office

Diesel-range organics (DRO) - A mixture of organic compounds found in diesel fuel, jet fuel, and heating oil. Polynuclear aromatic hydrocarbons (PAHs), such as naphthalene, are included in this range. DRO are generally less volatile and less soluble than GRO.

Ecological screening level - Screening ecological benchmarks are used to identify chemical concentrations in environmental media that are at or below thresholds for effects to ecological receptors. Screening benchmarks have been compiled by several sources, including the Oak Ridge National Laboratory (ORNL) and the National Oceanic and Atmospheric Association (NOAA).

Ethylbenzene - A colorless, volatile, flammable organic liquid (C_8H_{10}) with a sweet, gasoline-like odor used in a variety of chemical products, including motor fuel.

EPA - United States Environmental Protection Agency.

Environmental Restoration Program (ERP) - The USAF's CERCLA program.

Feasibility Study (FS) - An evaluation of site conditions and potentially applicable remedial actions.

Gasoline-range organics (GRO) - A mixture of organic compounds found in gasoline.

Hazard index - A summation of the hazard quotients for all chemicals to which an individual is exposed. A hazard index value of 1.0 or less than 1.0 indicates that no adverse human health effects (noncancer) are expected to occur.

Hazard quotient - A comparison of an estimated chemical intake (dose) with a reference dose level below which adverse health effects are unlikely. The hazard quotient is expressed as the ratio of the estimated intake to the reference dose. The value is used to evaluate the potential for noncancer health effects, such as organ damage, from chemical exposures.

Hazardous substance - A chemical that presents an imminent and substantial danger to the public health or welfare if it is released to the atmosphere, surface water, groundwater, or land surface. Regulatory definitions can be found in CERCLA § 101(14) and 102, in the NCP at 40 CFR § 300.5, and in Alaska Statute (AS) 46.03.826 and AS 46.09.900.

Proposed Plan for Site Closure at Six Sites - Cape Romanzof LRRS

Land Use Controls (LUCs) – Any type of physical, legal, or administrative mechanism to restrict the use of, or limit access to, real property to prevent exposure to contaminants above permissible levels. The intent of the controls is to protect human health, the environment, and the integrity of an engineering remedy by limiting the activities that may occur at a particular site. Common examples of *LUCs* include physical barriers to a site (e.g., fences and signs) and land use restrictions (e.g., restricting the installation of drinking water wells). *LUCs* are commonly referred to as institutional controls (*ICs*) by the state of Alaska.

Landfill Cover or Cap – The presumptive remedy for landfills. A landfill cap is a soil cover or cover of low permeability material that is installed over a landfill as a protective covering to protect the landfill from surface water infiltration, reduce the potential for contaminants contained within buried debris to leach into nearby groundwater, and prevent direct exposure to landfill waste.

Method 2 Cleanup Levels – In 18 AAC 75, the State of Alaska provides four possible methods for determining soil cleanup levels. Method 2 utilizes tabulated cleanup levels (Table B1 and Table B2 for soil and Table C for groundwater) that must be met for site closure. Meeting the tabulated cleanup levels is considered to be protective of human health.

Milligram per kilogram (mg/kg) – A solid concentration measurement. One milligram of a substance in 1 kilogram of soil, which is also equal to a concentration of 1 *ppm* for that substance in soil (see definition for parts per million).

Milligram per liter (mg/L) – A liquid concentration measurement. One milligram of a substance in 1 liter of water is also equal to a concentration of 1 *ppm* in water (see definition for *parts per million*).

Monitored Natural Attenuation – An environmental cleanup strategy in which naturally-occurring processes (also known as intrinsic remediation) are allowed to cleanup contaminants. Environmental sampling is used to monitor the cleanup process.

National Contingency Plan (NCP) – The regulations that provide the structure and procedures for responding to discharges of oil and hazardous substances, as directed by CERCLA.

Parts per million (ppm) – A unit of measure used to express extremely low concentrations of chemicals in media such as soil or water. As an analogy, one ounce of a chemical in a million ounces of water is 1 *ppm* and is also equivalent to 1 second of time in a period of 11 1/2 days. Equivalent units for 1 *ppm* can be expressed as 1 mg/L (water) or 1 mg/Kg (soil).

Polyaromatic (or Polycyclic) Hydrocarbons (PAHs) – A class of very stable organic molecules made up of only carbon and hydrogen (benzene rings). They occur naturally in crude oil and refined products (such as diesel fuel) and also occur as products of incomplete combustion. Some PAHs are highly carcinogenic (e.g., benzo(a)pyrene).

Polychlorinated biphenyls (PCBs) – A group of toxic, persistent chemicals used in transformers and capacitors for insulating purposes and in gas pipeline systems as a lubricant.

Proposed Plan – A document required by section 117(a) of CERCLA that informs the public about alternatives that are considered for cleanup of a contaminated site and identifies a preferred cleanup alternative. The document encourages public comment on all alternatives.

Record of Decision (ROD) – As required by CERCLA section 117(b), a document of the final cleanup decision under the site cleanup rules. The ROD documents the rationale for selection of the cleanup remedy and establishes performance goals for achieving cleanup. A ROD issued by or for ADEC is similar to a USAF Decision Document or an EPA ROD, but its format may differ. The format for an ADEC ROD is specified in the *ADEC Guidance on Decision Documentation Under the Site Cleanup Rules* (July 1999).

Residual Range Organics (RRO) – Heavy-range petroleum products such as lubricating oils, with petroleum hydrocarbon compounds corresponding to an alkane range from the beginning of C25 to the beginning of C36 and a boiling point range between approximately 400° C and 500° C (definition from 18AAC75.341)

Restoration Advisory Board (RAB) – An advisory body with diverse community representation designed to act as a focal point for the exchange of information between the USAF and interested stakeholders.

Proposed Plan for Site Closure at Six Sites - Cape Romanzof LRRS

Remedial Action - Action taken to permanently eliminate, reduce, or control the hazards posed by hazardous substances, pollutants or contaminants at a site.

Responsiveness Summary - A summary of oral and/or written public comments received during a comment period and the responses to those comments. The responsiveness summary is part of the decision document or ROD.

Remedial Investigation/Feasibility Study (RI/FS) -: An evaluation of site conditions (RI) and potentially applicable remedial actions (FS).

Risk-Based Cleanup Level (RBC) - Pathway-specific (e.g., inhalation or ingestion) soil levels corresponding to the concentration that would cause an adverse effect through the inhalation or ingestion routes of exposure. RBCs for method two soil inhalation and ingestion pathways are provided in Appendix B to the ADEC's Cumulative Risk Guidance (ADEC, November 7, 2002).

SVOCs - Semi-volatile organic chemicals

Sediment Benchmark Screening Levels (SSL) - Benchmark screening levels are used to identify chemical concentrations in environmental media that are at or below thresholds for effects to ecological receptors. Screening benchmarks have been compiled by several sources, including the EPA, Oak Ridge National Laboratory (ORNL), and the National Oceanic and Atmospheric Association (NOAA).

Site Closure - A written determination by ADEC that a site was adequately characterized and achieved the applicable requirements under the site cleanup rules (18 AAC 75.380(d)(1)).

Surface Water Quality Standards - Water quality standards published in 18 AAC 70 to protect surface waters of the State of Alaska.

Toluene - A colorless, volatile, flammable liquid, C_7H_8 , used in aviation fuel and other high-octane fuels, in dyestuffs, explosives, and as a solvent for gums and lacquers.

Trichloroethene (TCE) - A chlorinated solvent that is a widely-used degreaser. Its chemical formula is C_2HCl_3 , and it is heavier than water. It is colorless, volatile, and nonflammable. It is also known as trichloroethylene.

TCLP - Toxicity Characteristic Leaching Potential. A

laboratory test for soil samples designed to simulate leaching of an analyte into groundwater.

TPH - Total petroleum hydrocarbons. In Alaska, use of TPH as a bulk hydrocarbon measurement became obsolete when the Alaska Methods for measuring **DRO** (AK Method 102), **GRO** (AK Method 101), and **RRO** (AK Method 103) were developed, and Alaska cleanup levels were established for DRO, GRO, and RRO.

UST - Underground Storage Tank.

USAF - United States Air Force

VOCs- Volatile organic chemicals

Water Table - Practically speaking, the water level in a shallow well installed into an unconfined aquifer is the water table. The water table is defined as the surface on which fluid pressure in the pores of the aquifer is exactly atmospheric.

Xylenes - A group of colorless, volatile, flammable liquids (C_6H_{10}) with a sweet odor that are used in a variety of products including motor fuel.

PUBLIC COMMENT PERIOD

Reminder:

May 31, 2006 to June 30, 2006

***IF THERE IS SUFFICIENT INTEREST FOR A PUBLIC MEETING ON THIS
PROPOSED PLAN AND REQUESTED BEFORE JUNE 30, 2006, AN
ACCEPTABLE MEETING DATE WILL BE SCHEDULED BEFORE JULY 30,
2006 AND THE COMMENT PERIOD EXTENDED***

Name _____
Address _____
City _____
State _____ Zip _____

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